

REMARKS

Claims 1-33 remain in the case.

Claims 1 and 20 have been amended in view of the Office Action and to better define what the Applicants consider their invention, as fully supported by an enabling disclosure.

Reconsideration in view of the following remarks and entry of the foregoing amendments are respectfully requested.

No new matter has been added.

REJECTION UNDER 35 U.S.C. § 102(B)

Claims 1-3, 12, 16-18, 20-22 and 30 have been rejected as being anticipated by **Imlach** under 35 U.S.C. § 102(B).

Applicants respectfully traverse the rejection as follows.

Applicant amends independent claims 1 and 20 to more precisely recite what they believe the invention is, as supported by the application as filed.

Imlach discloses two passive magnetic bearings, including an upper magnetic bearing comprising a stator 22 and a rotor 24, and a lower magnetic bearing comprising a rotor 34 and a stator 32.

The rotor 24 comprises a first permanent magnet 224 directly opposite a permanent magnet 244 provided on the stator 22, and a second permanent magnet 246, the two opposing permanent magnets 224 and 244 providing a direct magnetic field portion, while the second permanent magnet 246 of the rotor and the permanent magnet 244 of the stator provide an offset magnetic field portion, simultaneously. As described in column 4, lines 9-14, there is a repulsive portion of the magnetic field interaction and an attractive portion of the magnetic field interaction.

In contrast, in the present invention, as recited in amended independent claims 1 and 20 the magnetic field interaction opposes one external force F_{ext} . i.e. is

repulsive or attractive (see abstract of the invention as filed, see paragraphs [0016], [0021], and [0042]). The external force F_{ext} is either attractive (see paragraphs [0030] – [0039] in relation to Figures 1 to 3 as filed), or repulsive (see paragraphs [0041] – [0039] in relation to Figures 1 to 3 as filed). As summarized in paragraph [0042] as filed, either an attraction force or an expulsion force are generated.

Imlach fails to recite a device as recited in amended independent claims 1 and 20.

Claims 1, 20 and 33 have been rejected as being anticipated by **Tanaka et al.** under 35 U.S.C. § 102(B).

Applicants respectfully traverse the rejection as follows.

The element labelled 45 A and refereed to by the Examiner as a stator is defined at page 8 of the English translation of **Tanaka et al.** as a groove for screwdriver formed on the lower face of a case 45. The element labelled 42 A and referred to by the Examiner as a rotor is defined at page 7 of the English translation of **Tanaka et al.** as an upper face of the case 45.

In fact, **Tanaka et al.** describe a fixed shaft 22 in a rotating sleeve 32, contained in a housing 20, the upper part of the sleeve 32 being left open (see top page 7 of the English translation and Figure 1), while the lower end of the sleeve 32 is closed by a member 40-42 bearing a permanent magnet 41. A permanent magnet 44 is position opposite the permanent magnet 41 and supported by a case 45 fixed to the bottom part of the housing 20, the permanent magnets 41 and 44 being so positioned that their similar poles face, so that a magnetic repulsive force is created (see top page 8 of the English translation). There is a first gap B in the axial direction between the top member 40-42 and the lower case 45, and a second gap A, different from the first gap B, formed in the axial direction between the two opposing magnets 41 and 44.

In operation, the repulsive force created between the two opposing magnets 41 and 44 supports the top member 40-42 floatingly in the axial direction and

rotates at high speed (see top page 11 of the English translation). As explained in **Tanaka et al.**, during this rotation, if large external vibration or shock occurs and causes the sleeve 32 to oscillate in the axial direction, the [top member] 42 hits the [lower] case 45 (...).

From the foregoing, it is respectfully submitted that **Tanaka et al.** fail to recite a device as recited in amended independent claims 1 and 20.

As recently stated in *Net MoneyIn v. Verisign* (Fed. Cir. 2008), "because the hallmark of anticipation is prior invention, the prior art reference—in order to anticipate under 35 U.S.C. § 102—must not only disclose all elements of the claim within the four corners of the document, but must also disclose those elements "arranged as in the claim.""

In view of the above and foregoing, it is respectfully requested that the Examiner withdraw his rejection of claims under 35 U.S.C. § 102, second paragraph.

REJECTION UNDER 35 U.S.C. § 103(A)

Claims 8, 9, 28 and 29 have been rejected as being unpatentable over **Imlach** in view of **Ono et al.** under 35 U.S.C. § 103, first paragraph.

Applicants respectfully traverse the rejection as follows.

Ono et al. disclose an apparatus comprising two parallel rail elements 11a and 11b made in a magnetic material and suspended from the ceiling, and a vehicle 12 travelling along the rails 11a and 11b without contacting the rails 11a and 11b, due to the attractive action between magnets 15a-15d arranged on the vehicle 12 and the rails 11a and 11b (see Figure 3), a gap G existing between the tops of the magnets 15a-15d arranged on the vehicle and the rail elements 11a and 11b (see column 3, lines 63-64). The amplitude of attraction between the magnets 15a-15d arranged on the vehicle 12 and the rails 11a and 11b is adjusted by supplying a current in a direction or an opposite

direction, depending on the size of the gap G compared to a predetermined value G0 (see column 4, lines 17-28).

The spacer 70p pointed out by the examiner is provided on one of the mounting members 70a-70b for the magnets 15a-15d on the vehicle 12, for movingly mounting the associated magnet 15d to the vehicle 12. The spacer 70p is used to adjust the distance between the magnet 15d and the rail element 11a.

None of **Imlach** or **Ono et al.** teaches or even it at a device or method as recited in the amended claims.

Even without seeking out precise teachings and by taking account inferences and creative steps that a person of ordinary skill in the art would employ, as reinstated in *KSR Int'l Co. v. Teleflex Inc.*, 127 S. Ct 1727, 1741 (2007) quoting in *Re Kahn*, 441 F. 3d 977, 988 (Fed. Cir. 2006), given the above deficiencies in the applied prior art, Applicant fails to see how and in what manner the disclosure of **Imlach** might have been modified by **Ono et al.** to arrive at the features as set forth in the amended independent claims.

In determining the differences between the prior art and the claims, the question under 35 U.S.C. 103 is not whether the differences themselves would have been obvious, but whether the claimed invention as a whole would have been obvious (see MEPEP 2141.02) and the claimed invention AND the prior art references must be considered as a whole, including portions that would lead away from the claimed invention.

In the present case, given the disparity of problems addressed by the applied prior art references, and the differing solutions proposed by them, any attempt to combine them in the manner proposed by the Examiner can only come from Applicants' own disclosure using hindsight reconstruction.

Claims 13, 14, 31 and 32 have been rejected as being unpatentable over

Imlach in view of **Johnson et al.** under 35 U.S.C. § 103, first paragraph.

Applicants respectfully traverse the rejection as follows.

Johnson et al. disclose a system 70 used to damp vibrations on a rotating shaft 60. The system 70 comprises a support 72 that is heat shrunk onto the shaft 60 for a very tight fit to prevent vibrations, a reaction mass 69 connected to the shaft 60 and bolted to the support 72. The reaction mass 69 comprises permanent magnets 84 and 86 that, by interaction with coils 88 and 89 wound onto the support 72, generate a net axial force pair that acts on the shaft 60 and, in the opposite axial direction, acts on the reaction mass 69 (see column 3, line 48 - column 4, line 5, figure 3). The reaction mass 69 is allowed to move right and left along the axis of the shaft 60, but prevented from radial movement. An elastic restoring force returns the reaction mass 69 to its resting location when no current is applied in the coils 88 and 89. Force is sensed with a piezoelectric unit. (see column 4, lines 6-18).

None of **Imlach** or **Johnson et al.**, alone or in combination, teaches or even hints at a device and method as recited.

Even without seeking out precise teachings and by taking account inferences and creative steps that a person of ordinary skill in the art would employ, as reinstated in *KSR Int'l Co. v. Teleflex Inc.*, 127 S. Ct 1727, 1741 (2007) quoting in *Re Kahn*, 441 F. 3d 977, 988 (Fed. Cir. 2006), given the above deficiencies in the applied prior art, Applicant fails to see how and in what manner the disclosure of **Imlach** might have been modified by **Johnson et al.** to arrive at the features as set forth in the amended independent claims.

In determining the differences between the prior art and the claims, the question under 35 U.S.C. 103 is not whether the differences themselves would have been obvious, but whether the claimed invention as a whole would have been obvious (see MEPEP 2141.02) and the claimed invention AND the prior art references must be considered as a whole, including portions that would lead away from the claimed invention.

In the present case, given the disparity of problems addressed by the applied prior art references, and the differing solutions proposed by them, any attempt to combine them in the manner proposed by the Examiner can only come from Applicants' own disclosure using hindsight reconstruction.

Claim 11 has been rejected as being unpatentable over **Imlach** in view of **Guy** and **Thomas** under 35 U.S.C. § 103, first paragraph.

Applicants respectfully traverse the rejection as follows.

According to the 2 lines English abstract available, **Guy** discloses an asynchronous motor having a rotor made of carbon sheet.

Thomas discloses a step motor with a stator made in mild steel (see column 2, lines 9-12).

None of **Imlach** or **Guy** or **Thomas**, alone or in combination, teaches or even hints at a device and method as recited.

Even if looking beyond the teachings of the cited references, and considering the creativity, insight, and common sense of a person having ordinary skill in the art, knowing that "A person of ordinary skill is also a person of ordinary creativity, not an automaton." *KSR*, 550 U.S., slip op. at 17, it is respectfully submitted that the Examiner fails to show any reason to combine these references. Even if such an event, and even without seeking out precise teachings and by taking account inferences and creative steps that a person of ordinary skill in the art would employ, as reinstated in *KSR Int'l Co. v. Teleflex Inc.*, 127 S. Ct 1727, 1741 (2007) quoting in *Re Kahn*, 441 F. 3d 977, 988 (Fed. Cir. 2006), given the above deficiencies in the applied prior art, Applicant fails to see how and in what manner the disclosure of **Imlach** might have been modified by **Guy** and **Thomas** to arrive at the features as set forth in the amended independent claims.

In determining the differences between the prior art and the claims, the question under 35 U.S.C. 103 is not whether the differences themselves would have

been obvious, but whether the claimed invention as a whole would have been obvious (see MEPEP 2141.02) and the claimed invention AND the prior art references must be considered as a whole, including portions that would lead away from the claimed invention.

In the present case, given the disparity of problems addressed by the applied prior art references, and the differing solutions proposed by them, any attempt to combine them in the manner proposed by the Examiner can only come from Applicants' own disclosure using hindsight reconstruction.

The rejections of the claims are believed to have been overcome by the present remarks and amendments. From the foregoing, further and favorable action in the form of a Notice of Allowance is believed to be next in order, and such an action is earnestly solicited.

Respectfully submitted,
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LLP

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